

# SCIENCE & GOVERNMENT REPORT

11th Year of Publication

The Independent Bulletin of Science Policy

Volume XI, No. 5

P.O. Box 6226A, Washington, D.C. 20015

March 15, 1981

## Protests Mount Against R&D Budget Cuts

Political neglect and the imminence of Mr. Reagan's fiscal noose have at last had a concentrating effect on the minds of the scientific mandarin, and, as a result, some of the elders are complaining aloud—though, as in their tradition, rather courteously.

Thus, a week after the Administration's February 18th announcement of cuts in the National Science Foundation's funds for education programs (SGR Vol. XI, No. 4), D. Allen Bromley, President of the American Association for the Advancement of Science, announced the dispatch of a telegram to Mr. Reagan and his chief hatchetman, David Stockman, Director of the Office of Management and Budget. Said Bromley, "I remind you that science education programs have already received disproportionate reductions. To expect scientific and technological progress while abandoning efforts at improving science and engineering teaching in

our schools is illogical and a disservice to the Nation's interest."

The AAAS gave Bromley's message wide distribution to the news media, but it went generally unnoticed, with one important exception—the *New York Times*, which tends to exceed the pack in attention to the sensitivities of the scientific community. So there the next day, Bromley's lament was at the top of the page 1 lead story on the Washington's budget hullabaloo, and the professor himself (physics at Yale) was pictured, solo, alongside the article.

A few days later, in an episode suggestive of Rip van Winkle, the General Secretary of the Association of American University Professors, Irving J. Spitzberg Jr., told a Congressional hearing that the Reagan budget cuts would "transform a large number—indeed even a majority—of campuses into arenas of budget conflict." In contrast to what, he didn't say.

His thesis was that hard times would adversely affect tenure, hirings of the young, and academic freedom. On this last point, Spitzberg took an uncommonly dour view of the ethical equilibrium of higher education, contending that "during periods of retrenchment, decisions are made about individuals, often in haste and with

(Continued on page 2)

## A Talk With the Head of NSF

*John B. Slaughter, the Carter appointee whom the Reagan Administration has retained as Director of the National Science Foundation, conversed on March 4 for 45 minutes with SGR on the current political plight of science. Following are key points from that interview:*

Agreeing with SGR's observation that "the new Administration plans to cut the guts out of the social sciences," Slaughter said that "NSF has done a poor job of getting the scientific community to realize that the social sciences are part of science."

One of the main difficulties in responding to the planned reductions in NSF spending, he said, is that there's no science adviser at the White House, "and I've got no contacts at the White House." Slaughter said he's had no contact with Simon Ramo, the TRW executive who was a senior but distantly involved science adviser to Reagan during the campaign. And he said it was around the end of January when he last spoke to Arthur M. Bueche, the GE Vice President for corporate technology, who served more or less as transition-team science adviser. Slaughter added that he had assurances from members of the transition team and others that Mr. Reagan wanted him to stay on as Director, but that he's had no communication at all from the President.

(Continued on page 3)

## In Brief

Who's calling the budget-cutting signals for the Reagan Administration on R&D matters? Lots of guessing about that in Washington, given the numerous unfilled senior slots. A shrewd guess of one longtime Congressional aide is that the key figure these days in Executive Branch R&D budget affairs is a career service, middle-rank veteran of the Office of Management and Budget, Hugh F. Loweth, Deputy Associate Director for Energy and Science.

"He's the only one left," was the comment of our Capitol Hill man, himself a veteran of science committee service.

At a press briefing on his desecrated budget, NSF Director John Slaughter performed smoothly in defending cuts that, it might be guessed, were not of his own making. Pressed hard by reporters, Slaughter replied that the Reagan economic recovery plan requires spending reductions, and the cuts reflect "the choices the Administration prefers and the choices that I prefer."

## ...New Plea for White House Science Office

(Continued from page 1)

limited information. So 'troublemakers' are especially vulnerable to negative judgments justified by economic difficulty. Procedures of fair review are often viewed as luxuries which the exigencies of the moment will not allow.'

His testimony, to the House Subcommittee on Secondary Education, was followed by warnings from other witnesses about the economic collapse that awaits many smaller institutions if student loan funds are crimped, as Mr. Reagan is proposing.

Meanwhile, the social and behavioral sciences, aroused by the announcement of big cuts across the board at the National Institute of Mental Health and in the professions' slice of the NSF budget, have begun to organize a response.

In a letter dated March 3 to OMB chief Stockman, the top brass of the American Psychological Association praised the retention of "hard" science funds in the NSF budget, but deplored the social-science reductions, adding that: "For every cost-cutting application that has emerged from basic research in the natural sciences, an additional example can be cited from the sciences now scheduled for near extinction." There followed the usual tales drawn from aviation safety research, livestock predator control, personnel-selection techniques for the military, and so forth.

But then, in a move suggesting that they don't see much hope for a direct reprieve, the psychologists, in effect, asked Stockman for one more inning in the budgetary game. "There is an alternative which makes a great deal of sense," they wrote, "and we offer it in good faith. If you have determined that the National Science Foundation budget must sustain a budget cut...do not target the cuts. Submit a bottom line figure for NSF to Congress, allow Congress to debate it and vote on it, and if it is approved, give the Director of the Foundation and the National Science Board the authority to decide how cuts can best be accomplished with minimal damage to all disciplines."

Finally, the science establishment has resumed reminding Mr. Reagan that, whether or not he realizes it, he needs a science adviser on board at the White House. The absurdity of pushing upon the President a senior staff associate whose presence he does not desire of his own accord is quite obvious. Nonetheless, the nudging of the President was undertaken by James R. Killian Jr., who was Eisenhower's science adviser, in a *New York Times* op-ed piece March 10. Referring to his own service, Killian, former President of MIT, urged Mr. Reagan to fill the lingering science-advisory post, and concluded with the bizarre assertion that if he doesn't, we might fall behind Germany and Japan in the same

### Psychologists Hit Fund Cuts

*At its meeting on March 5-6, the Board of Scientific Affairs of the American Psychological Association adopted resolutions in which it:*

Supported the use of press releases through the APA Public Information Office highlighting recent research which shows promise of increasing national productivity.

Voted to send a letter to the Executive Office of the President, urging the speedy appointment of a President's Science Advisor.

Voted to send a letter to the National Academy of Sciences, urging NAS to take an active role in support of science and asking NAS to undertake a study of the impact of President Reagan's budget proposals on all of science and science education, with attention to the short and long range consequences.

The Board also voted to:

Recommend to the Board of Convention Affairs that a two-hour program be scheduled at the APA convention in Los Angeles on the topic of psychology and national productivity—the program to be scheduled at a time when no other programs are scheduled.

Recommend to the Executive Officer that the letter he and two of the APA Presidents sent to David Stockman be mailed to every member of Congress in the House and Senate.

Recommend that one page fact sheets on the Reagan budget be sent to all State Psychological Associations, asking them to contact the members of their Congressional delegations.

Recommend that *Psychology Today* be contacted about the possibility of running an article on the impact of federal budget cuts on research in psychology—author of the article not specified at this time.

Recommend to the Executive Officer that a letter be sent to all APA members explaining the seriousness of the Reagan budget cuts for psychology and urging effective action. Alternatively, an editorial in the [APA] *Monitor* was urged at the earliest possible time.

way that, in the 19th century "British science policy making...faltered and the British fell behind while Germany forged ahead."

It's going to take some time before the elders of  
(Continued on page 3)

## ...Slaughter Hopes for New Funding Sources

(Continued from page 1)

Nor has he been given any signals about the Administration's preferences in science-policy affairs. "No coherent science policy has been stated by the Administration," he said.

A difficult budgetary situation is developing at a time when "the scientific community is still very diffuse. We need a cohesion of the disciplines," Slaughter said, "but there's no sign of that happening. 'There's a need for all of science to recognize that it's one community.' And he added, 'Maybe we need a rallying campaign.'"

In regard to the future of NSF in the new political and financial situation, Slaughter said, "We need to rethink the way NSF does its work, since we can't expect expanding budgets." Given that circumstance, he went on, "NSF must serve as a catalyst to bring together universities, industry, and state and local governments."

He said that he didn't doubt that the non-federal money is out there, adding, "NSF must serve as a means for getting other people to support science. NSF will never have the resources alone."

He said that this applies to the whole spectrum of science and related activities, including efforts to increase the numbers of women and minority-group members in science and engineering. "The government," he said, "has the responsibility and opportunity to serve as a focal point for bringing in the private sector and others" in these efforts.

Asked whether he thought Congress would go along with the Administration's proposals on research spend-

ing, Slaughter said, "I get the impression that Congress is sensitive to the [Reagan] economic recovery program. There's no Congressional antipathy to science," he said, "but I get the sense that they want us to prove our needs."

Slaughter said that "NSF operates efficiently. We do a good job, compared to any public or private foundation." The situation that now has to be faced, he continued, dictates that since "We can't work richer, we'll have to work smarter."

Would he like to see the federal government's central science-advisory function returned to NSF—where it was lodged for three years after Richard Nixon abolished the White House Office of Science and Technology?

Slaughter responded that the job "is not appropriate for NSF. It couldn't be as effective here as it is in the White House."

Has the scientific community deluged him with protests against the announced budget reductions (SGR Vol. XI, No. 4)? "No," he replied. "Though the scientific community has come to depend on NSF, it has a high degree of understanding that science must accept some reductions to improve the economy."

"The budget proposals do not reflect an anti-science mood in the Administration," Slaughter said, or "a feeling that some parts of science are more important than others." He pointed out that "engineering research is untouched in the new budget."

Slaughter concluded by saying, "I'll feel a lot better when we get a White House science adviser."

The main impression conveyed was of an administrator isolated from the power center that was making major decisions affecting his organization and responsibilities.—DSG

### REACTION (Continued from page 2)

science recognize that the Reagan crew is totally immune to these polite pleadings. (None has been answered, or, perhaps, even read, so far as we know).

It's political muscle and public relations prowess that moves that new White House crowd. For starters, the victims of the forthcoming budget mangling ought to think in those terms, and, as a first step toward an effective response they might consider a new annual prize: For the public official who has inflicted the greatest harm on American science.—DSG

### Levy Quits NIH for Tufts

Robert I. Levy, Director of the National Heart, Lung, and Blood Institute since 1975, has resigned to take the newly created post of Vice President for Health Sciences at Tufts University. Levy, age 43, will also be dean of the School of Medicine.

© Science & Government Report, Inc., 1981

ISSN 0048-9581

Editor and Publisher  
Daniel S. Greenberg

Associate Publisher  
Wanda J. Reif

Contributing Correspondents

Anne Roark, Clive Cookson (Washington); Michael Kenward (London); Francois Segurier (Paris)

Independently published by Science & Government Report, Inc., twice monthly, except once each in January, June & July. Annual Subscription: Institutions, \$118.50 (two years, \$198.50); individuals, \$48.50 (two years, \$82.50). Editorial offices at 3736 Kanawha St., N.W., Washington, DC 20015. Tel. (202) 244-4135. Second class postage paid at Washington, DC. Please address all subscription correspondence to Box 6226A, Northwest Station, Washington, DC 20015. Reproduction without permission is prohibited. SGR is available on Xerox University Microfilms. Claims for missing back issues will be filled without charge if made within six months of publication date.

## NSF Cuts Assailed in House Budget Hearing

A lot of kind words were uttered about the National Science Foundation March 3 as its annual authorization review got underway in the House. But with Congress still trying to assess public reaction to the Administration's budget-cutting spree, the proceedings were fairly sedate and in no way suggested that a goal-line stand will be made against Reagan's assault on some of NSF's most treasured programs.

The proceedings, before the Science and Technology Committee's Subcommittee on Science, Research, and Technology, opened with the newly installed chairman, Doug Walgren (D-Pa), saying that "it's distressing to see reductions in NSF's science and engineering education programs." The "wisdom of the reductions," he said, must be examined. Rep. Bob Shamansky (D-Ohio) piped in with the observation that the cuts "would mortgage our future for short-term benefits."

The first witness was Mike McCormack, making his first official appearance before the new Congress since he was unseated as the Member from the Fourth District of Washington last November. McCormack, a nuclear enthusiast who's rumored to be in line for a post in the Department of Energy, made a pitch for preservation of NSF's education role. "A small amount of money affects the whole system," he said. Then he told his au-

dience that the Administration, lacking any appointees in high places dealing with science and technology, "doesn't understand what it's doing." This, of course, is true, but rather imprudent for a defeated legislator who openly says he aspires to a government job.

Next came Carl (Cosmos) Sagan, who said that Americans crave scientific knowledge and simultaneously suffer from a low level of scientific literacy. He added, "I believe popular support for science has been misread. It's enormous and it's politically popular."

As for the Administration's tardiness in appointing science administrators, Sagan echoed the common complaints, and, pointing to NASA, said "there's no one to talk to there."

Rep. George Brown (D-Calif.), who chaired the subcommittee until this year, stated the political dilemma that confronts him and many of his colleagues when he said, "I want to support the Administration's economic goal's without losing the [scientific] base for progress." Then he added, "But we haven't figured out how."

Following are excerpts from other testimony at the first day of the hearing:

**Donald W. McCurdy, President, National Science Teachers Association:** The shortage of qualified  
(Continued on page 5)

### Reagan's NSF Budget—Plusses and Minuses

BUDGET ACTIVITY	(OBLIGATIONS IN MILLIONS)				
	ACTUAL FY 1980	REVISED FY 1981	% CHANGE FY 81/80	REVISED FY 1982	% CHANGE FY 82/81
Mathematical and Physical Sciences	\$227.0	\$ 248.2	9.3%	\$ 295.4	19.0%
Engineering	76.6	83.8	9.3	102.6	22.4
Biological, Behavioral and Social Sciences	185.6	183.1	-1.3	172.0	-6.1
Astronomical, Atmospheric, Earth and Ocean Sciences	218.1	228.0	4.5	253.1	11.0
Ocean Drilling Programs	19.5	22.0	12.8	26.0	18.2
U.S. Antarctic Program	55.8	64.7	15.9	70.1	8.3
Scientific, Technological, and International Affairs	36.6	36.0	-1.6	37.7	4.7
Cross-Directorate Programs	15.6	16.2	3.8	-0-	-100.0
Science and Engineering Education	77.2	64.7	-16.2	9.9	-84.7
Special Foreign Currency	4.9	5.6	14.3	3.5	-37.5
Program Development and Management	58.2	60.77	4.3	63.2	4.1
<b>TOTAL</b>	<b>\$975.1</b>	<b>\$1,013.0</b>	<b>3.9%</b>	<b>\$1,033.5</b>	<b>2.0%</b>

## ...Assistance Urged for Engineering Schools

(Continued from page 4)

mathematics and science teachers in secondary schools has reached crisis proportions. Population changes and population mobility over the next ten years will make these shortages even more acute in some parts of the country. Engineering faculty at the post-secondary level cannot be found, and this problem will increase in severity. The science content at the secondary level is mismatched to the practical needs of most students, and appropriate alternatives do not exist. Schools and colleges have not been able to keep up with the revolution in modern technology, so that laboratories are hopelessly obsolescent. The erosion of teacher support systems and resources for science and mathematics teaching have led to reductions in the achievement of students in these fields at the very time when such knowledge is essential to work and live in our technological society. The essential role of computers in all aspects of our society is being restrained largely by the severe inadequacies of computer education. Where computers and microprocessors have revolutionized modern industry and business in more productive countries, our educational system has not prepared personnel with the skills and knowledge needed to utilize these innovations.

The President's programs to bring the nation to higher levels of productivity through advanced manufacturing and industrial technology and to improve our defense preparedness through the same advanced technology, are doomed to complete failure if we do not provide the people who must do these jobs with the essential scientific and technological education and training.

**H. Guyford Stever, former Director, NSF, and member of the Reagan election campaign Science and Technology Task Force:** If federal support of science and technology must be tightened in order to reach other national goals, I believe that the direct research grant is the most important program to protect in that budget tightening.

The need for equipment for teaching and research is so great that a high priority, second only to that for research grants, must be given to it. Neglect of our equipment needs has been building for a decade at least, and we cannot maintain first class science and engineering teaching unless we stop the neglect and begin now to reequip our laboratories and classrooms.

I want to stress again that the National Science Foundation-sponsored Summer Institutes for Teachers have been very effective, because they have not only upgraded the teaching of science, mathematics and technology, but they have also upgraded the importance of the mathematics and science teachers in the high school structure, and given them a more visible and

powerful voice in the affairs of secondary education.

Fellowship support has also been very effective. From my own experience, however, I believe it very difficult to convince government officials that the fields of science and engineering are any more deserving of direct fellowship and scholarship support than any other fields. I would hope that the National Science Foundation fellowship programs continue, but I do know that they always will have uphill sledding because of this apparent equity problem.

The programs for a curriculum development, as far as I am concerned, have had mixed results. More thought must be given to objectives and methods before I will give them a high priority.

Industry should sharply increase its support in science and engineering education. Most of the industries I know are already moving to strengthen their university contacts; and this will be good from the standpoint both of the flow of information and understanding, and of additional financial support.

**Daniel C. Drucker, Dean of Engineering, University of Illinois, Urbana-Champaign, and President-elect, American Society for Engineering Education:** ...we have descended, over the past 5 years, into an ever-deepening crisis in engineering education, a crisis that has just begun to become clearly visible to our industrial community. At meeting after meeting held this past year, academic participants have reported on the sad situation in engineering (including computer science) at their respective universities, whether large or small, public or private, world-renowned or more locally significant. A consistent and alarming picture has emerged of the severe problem soon to be faced by our highly technological society because of the growing crisis in our schools and colleges of engineering. The continually increasing shortage of engineering faculty at each of the schools was described in some detail and provided both confirmation and understanding of the reported figure of about 10 per cent nationwide or 2000 unfilled positions at the present time. The news of this shortage of present and available faculty, has been all but buried in the avalanche of reports of great surplus in almost all other disciplines with their long waiting lists of disappointed applicants. Each school labelled the present 10 per cent shortage of engineering professors not just as uncomfortable but as severe or acute and viewed the situation as one of crisis. The problem is far deeper and more pervasive than just a 10 per cent shortfall in presently budgeted positions....

The shortage of engineering faculty will become ever more acute over the next few years and will become catastrophic in less than a decade unless substantial cor-

(Continued on page 6)



## Europe Protests NASA Project Cancellation

Despite a protest delivered last week by three European ambassadors, the National Aeronautics and Space Administration is pressing ahead with its decision to absorb some of its budget cuts by backing out of a joint project with the European Space Agency (ESA) to send a pair of spacecraft to the sun in 1985.

Shortly after learning of NASA's decision to cancel construction of the spacecraft for the International Solar Polar Mission (ISPM), ESA issued a tartly worded statement accusing the agency of a breach of a memorandum of understanding between the two agencies. This was followed by a statement, signed by all 11 member states of ESA, presented at the State Department by the ambassadors of Sweden, Switzerland and Italy. But the budget figures subsequently released show that NASA has remained firm on its original decision. Funding for ISPM will be reduced from \$58.0 million to \$5 million in 1982, largely to provide tracking and support systems for the European spacecraft, and NASA Acting Administrator Alan M. Lovelace announced that the agency was confirming its plans to cancel the US spacecraft.

European scientists are both angry and frustrated about NASA's decision. They point out that almost \$45 million has already been spent on the European spacecraft and on instrumentation for the US craft. And that much of the scientific value of the mission will now be lost, since one of its principal goals was to have been the three-dimensional mapping of the sun's surface and the area of space which surrounds it as the spacecraft passed simultaneously over opposite poles. In its press statement, ESA emphasized that NASA's decision was taken without consultation, and that "as a result of this decision, European scientists from some 17 scientific institutions, who were supplying experiments for the NASA spacecraft, would no longer be able to fly them."

NASA officials, while sympathizing with the European point of view, argue that they had little choice. The space science programs have been required to absorb a 22-per-cent cut, from \$756.7 million to \$584.2 million in 1982. New projects, such as the Venus orbiting imaging

radar and the gamma ray observatory, were deferred at the direction of the Office of Management and Budget. To have eliminated the 1985 Galileo mission to Jupiter, at one point being seriously considered, would have virtually wiped out the planetary exploration program at NASA's Jet Propulsion Laboratory. And to have cut back seriously on the support of data analysis from current and recent missions, such as the Pioneer and Voyager spacecraft, would not only have had a major impact on university astronomy departments where most of this work is currently being funded, but would also have meant foregoing the opportunity to analyze data on whose collection many hundreds of millions of dollars has already been spent.

This left the solar polar mission. The program has been under threat before. Last summer, for example, its termination was proposed by the House Appropriations Committee, whose chairman, Edward Boland (D-Mass.), had frequently tried to cut back on the space-exploration program, coming close to eliminating the Galileo program. But the threat was averted through a massive lobbying campaign by European and US scientists, following which the State Department was able to have the money restored to the budget—to the relief, at the time, of ESA officials and European scientists.

The present decision will be more difficult to reverse, even though space science allies in Congress, such as Senator Jack Schmitt (R-NM), the new Chairman of the Senate Commerce Committee's Science and Space Subcommittee, remain enthusiastic supporters. NASA is justifying its cut by saying that, unlike other areas in which a significant cut would mean a 100-per-cent loss in the science, in the case of the ISPM, the fact that the Europeans are still expected to continue with the depleted mission means that some scientific results will still emerge. Most committee in Congress are likely to go along with this decision as being marginally less painful than cutting elsewhere in the space science budget—and unwilling to be identified as a special-interest group prepared to stand up against the OMB budget axe at this particular time.

Nor is the ISPM decision the only one which is likely to affect European scientists. NASA is also proposing a major cut in support for experiments on the Spacelab, the orbiting laboratory due to be launched from the Space Shuttle. Spacelab is being built by ESA, which will have complete control over the experiments scheduled for inclusion on the first launch. For subsequent launches with the second Spacelab NASA has its own program of experiments, but these are now being cut back significantly to absorb budget reductions.

*(Continued on page 7)*

### NSF BUDGET *(Continued from page 5)*

rective measures can be taken. The engineering education system is very close to a point of instability. If staff cannot be increased appreciably, enrollments soon must be cut significantly if educational quality is to remain acceptable. If enrollments are cut appreciably our industrial and defense enterprise will be unable to function effectively in a few years. The word "crisis" is no exaggeration.

## ...Warn on Effects on Future Space Ties

(Continued from page 6)

Particularly hard hit will be astrophysics experiments. In the budget figures released last week, funding for astrophysics experiments were cut by almost one-third in 1982, from a previous target of \$51.8 million. A principal reason for this has been a desire to avoid possibly fatal cuts in NASA's embryonic life-sciences research (which will look at things such as how plants know in which direction to grow when there is no gravity telling them which is up and which is down). Astrophysics, it is argued, can still get support from elsewhere; life-science research in space is more vulnerable, and hence the current proposal is that its budget should only be reduced 15 per cent, from a proposed \$16.5 million to \$14 million. This is unlikely to please scientists in Britain in particular, who had been planning on major collaborations in several areas of astrophysics, one of the current strengths of British science.

The long-term effect on future cooperation in international scientific activities is difficult to predict, although the threats have been plentiful. In its public protest, ESA stated that "unilateral actions of this kind would be detrimental to future space cooperation between Europe and the United States," pointing out that when the ISPM project was decided by the ESA science program committee in 1979, it was chosen in preference to a number of other, purely European missions because of the value that ESA attached to transatlantic cooperation.

The same point was made when the European ambassadors presented their protest to the State Department last week. They were heard sympathetically; having missed the new Under Secretary of State for Security Assistance, Science and Technology, who was testifying to Congress, they delivered their message to Tom Pickering, Assistant Secretary for Oceans and International Environmental and Scientific Affairs under the Carter Administration. Pickering played a key role last summer in getting money for ISPM restored into the NASA budget. But he is now on his way out of that post.

Last week's budget request reveals that the European delegation, whose unanimous protest was called "almost unprecedented" by an ESA official, seems to have had less success than the West Germans had had two weeks earlier. On this occasion their ambassador is said to have prompted Secretary of State Alexander Haig to intervene to help save the Galileo mission, which is being carried out under a bilateral agreement with German scientists.

Also hit by NASA's decision on the ISPM mission will be the company TRW, already under contract to build the spacecraft which the agency is now intending

### *A Turnaround on Fusion*

Last year's great political triumph for fusion research—passage of the fast-paced Magnetic Fusion Engineering Act of 1980—has turned to dust under the Reagan Administration's austerity stampede.

The bad news was gently but clearly delivered February 25 by N. Douglas Pewitt, Acting Director of the Department of Energy's Office of Energy Research, in testimony to the Energy Research and Production Subcommittee of the House Science and Technology Committee.

Addressing himself to advisory recommendations that underpinned the 1980 Fusion Act, Pewitt said that DOE had decided to back away from starts on a Fusion Engineering Device (FED) and a Center for Fusion Engineering. Together, they were to be the centerpiece for a program that was to triple to about a billion dollars a year by 1985, with the eventual goal a demonstration plant in operation around the end of the century.

"Faced with the need for fiscal constraint," he said, "we are not proposing to take the steps that would imply such large future year expenditures." The fusion program will continue, he emphasized, at a pace above the present level, but the go-for-broke policy implicit in the Fusion Act is rejected by the new Administration. Then he added:

"Although the Department strongly supports the development of magnetic fusion, the cost implications of fusion engineering development are still unclear and the feasibility and appropriate characteristics of the FED are too uncertain for such a step to be prudent now."

to cancel. Over \$15 million has already been spent by TRW on detailed design and the ordering of long-lead materials; construction of the spacecraft would have been worth an extra \$85 million to the company, which already has 100 people working on the project.

Ironically, construction is being carried out at TRW rather than JPL because NASA's own team at the laboratory already had its hands full with the Galileo spacecraft—whose cancellation might therefore have lead to an even more embarrassing situation. TRW officials have already echoed ESA concerns about the potential impact of the ISPM cut on future cooperation with European scientists, which they say was an eleventh-hour decision made without the proper consideration of alternatives; no comment has come from TRW founder and Reagan adviser Simon Ramo. —David Dickson (The author is Washington news editor of *Nature*).

## Reagan Undecided on Science Advisory Unit

The new Administration made its first contact with the fully staffed but idle White House Office of Science and Technology last week, but the touch was minor and revealed nothing about the fate of the organization. All that was involved was a one-line memo from the President, appointing Benjamin Huberman, a longtime OSTP staffer, as Acting Director.

Huberman, who's also on the staff of the National Security Council, succeeds Philip Smith, another OSTP veteran, who took over as Acting Director when the full-fledged Science Adviser, Frank Press, left the Carter Administration at the end of December. Smith has gone to the National Science Foundation's top policy body, the National Science Board, to assist NSB Chairman Lewis Branscomb in the preparation of a big science-policy manifesto for navigating science through the Reagan stringencies.

Meanwhile, the OSTP staff, numbering 19 professionals and a similar group of supporting people, comes to work daily, but, by all accounts, there's not much going on there, apart from what's vaguely referred to as "finishing up some things."

Still unresolved is whether Mr. Reagan intends to retain OSTP, and, if so, where and under whose directorship. On those items, there are many rumors but no official word. One report that's been circulating in Congressional science-policy circles has it

that Simon Ramo, the TRW magnate, dropped out of the front-runner position when Reagan aides responded coolly to his insistence that he'd take the job only if he could be free to sound off publicly on sci-tech policy issues.

There have been rumors, too, about downgrading the advisory function—perhaps folding it into the Office of Management and Budget or moving it to the Department of Commerce.

What's evident is that the new Administration doesn't rate science policy high in its concerns. The big budget chops that have been inflicted on research and development were decided upon without the advice of any science or engineering types, in or out of the Administration.

---

## Big Increase in Women MDs

Women received 23 per cent of the medical degrees awarded in the US last year—up from 8.5 per cent a decade ago, according to a newly released update by the Scientific Manpower Commission. In law, female degree recipients increased from 5.6 to 28.5 per cent during the decade. The growth for master's degrees in business was from 4 to 19 per cent, and for all types of PhDs, awards to women rose from 13.5 per cent of the total to 28.6 per cent during 10-year span.

---

Science & Government Report  
Northwest Station  
Box 6226A  
Washington, D.C. 20015

---

Second class postage paid  
at Washington, D.C.

---

9999

Xerox-University Microfilms  
300 N. Zeeb Rd  
Ann Arbor

MI 48106



